

REMARKS/ARGUMENTS

The Office Action mailed March 23, 2006, has been received and reviewed. Claims 1 through 4, and 6 through 8 are currently pending in the application. Claims 1 through 4, and 8 stand rejected. Claims 6 and 7 were withdrawn from consideration. Applicants have amended claim 1, and respectfully requests reconsideration of the application as amended herein.

Information Disclosure Statement(s)

Applicants note the filing of an Information Disclosure Statement herein on November 21, 2005, and notes that no copy of the PTO-1449 was returned with the outstanding Office Action. Applicants respectfully request that the information cited on the PTO-1449 be made of record herein.

35 U.S.C. § 102(b) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent No. 5,393,624 to Ushijima

Claims 1 through 3, and 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ushijima (U.S. Patent No. 5,393,624). Applicants respectfully traverse this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The 35 U.S.C. § 102(b) anticipation rejections of claims 1-3, and 8 are improper because the Ushijima reference does not describe, either expressly or inherently, the identical inventions in as complete detail as are contained in the claims.

Applicants' invention as presently claimed in amended independent claim 1 recites:

1. A system for selectively depositing a material on a previously formed workpiece, comprising:
 - a platform for supporting the workpiece including a semiconductor die during a deposition process;
 - a sensing system configured to measure** over the semiconductor die both **an upper surface** including a previous material previously deposited thereon **and to continuously measure a surface level of a material being deposited on the upper surface** until the surface level of the material corresponds to a specific thickness of the material; and
 - a deposition system for depositing the material on the workpiece to the specific thickness as monitored by the sensing system. (Emphasis added.)

In contrast, the Ushijima reference discloses a system which measures a thickness of an underlying layer formed on the wafer, stores the underlying layer thickness, references a stored table to determine a rotation number for programming the spin coater, rotates the wafer accordingly while dispensing the material on the wafer. A measurement is then taken to determine the thickness of the material that has been applied. An error is calculated between the desired thickness and the actual thickness and a correction value is calculated and stored in hopes of generating a more accurate thickness on the next wafer that utilizes the correction value.

Specifically, the Ushijima reference discloses:

- ... **measuring a thickness** of an underlying layer formed of a wafer;
- storing the underlying layer thickness measurement data into memory means;
- storing table data (first reference data) ... (second reference data) ... (third reference data) ... (fourth reference data) ... into the memory means before said underlying layer thickness measuring step;
- obtaining a wafer rotation number based on the second reference data and the third reference data;
- rotating the wafer at the obtained rotation number so as to **apply a resist** on the underlying layer;
- obtaining a thickness of the resist film applied** on the underlying layer, based on said underlying layer thickness measurement data and said first reference data;
- storing the thickness measurement data for the applied resist into the memory means;
- detecting a difference** between the applied resist thickness measurement data and said third reference data;

calculating a correction value for the wafer rotation number, based on the detected difference and said second reference data;
storing the correction value of the wafer rotation number into the memory means as fifth reference data;
correcting the wafer rotation number during application of the resist to the wafer, based on the fifth reference data, and feedback-controlling the wafer rotation number ***so that a wafer following the previous one has said target resist thickness.*** (Ushijima, col. 2, lines 25-61; emphasis added.)

Clearly, the Ushijima reference discloses a system for forming a layer, however, the Ushijima reference does not disclose Applicants' invention as presently claimed including the claim elements of ***“a sensing system configured to measure ... both an upper surface ... and to continuously measure a surface level of a material being deposited on the upper surface until the surface level of the material corresponds to a specific thickness of the material”***

Therefore, independent claim 1, and claims 2-4, and 8 depending therefrom, cannot be anticipated by the Ushijima reference under 35 U.S.C. § 102. Accordingly, such claims are allowable over the cited prior art and Applicants respectfully request that such rejections be withdrawn.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent No. 5,393,624 to Ushijima, and Further in View of U.S. Patent No. 6,642,155 to Whitman et al.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ushijima (U.S. Patent No. 5,393,624) as applied to claims 1 through 3, and 8 above, and further in view of Whitman et al. (U.S. Patent No. 6,642,155). Applicants respectfully traverse this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable

expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

The 35 U.S.C. § 103(a) obviousness rejections of claim 4 is improper because the elements for a prima facie case of obviousness are not met. Specifically, the rejection fails to meet the criterion that the prior art reference must teach or suggest all the claims limitations.

Applicants sustain the above-proffered arguments regarding the lack of teaching or suggestion in the Ushijima reference for Applicants' invention as presently claimed including the claim elements of **“a sensing system configured to measure ... both an upper surface ... and to continuously measure a surface level of a material being deposited on the upper surface until the surface level of the material corresponds to a specific thickness of the material ...”** as claimed in presently amended independent claim 1 from which claim 4 indirectly depends.

The Office Action asserted the Whitman reference stating:

Whitman discloses that it is known in measuring the thickness during spin coating operations to utilize multiple sensors. Whitman uses the multiple sensors to track coated and uncoated areas in order to properly coordinate the coating operation (as described in column 3). (Office Action, p. 3).

Even assuming, arguendo, that the Whitman reference teaches multiple sensors, neither Ushijima nor Whitman, either individually or in any proper combination, teach, disclose or motivate the claim limitations of Applicants' invention as presently claimed to establish a prima facie case of obviousness under 35 USC §103. Accordingly, Applicants respectfully request the rejection be withdrawn.

CONCLUSION

Claims 1-4, and 8 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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